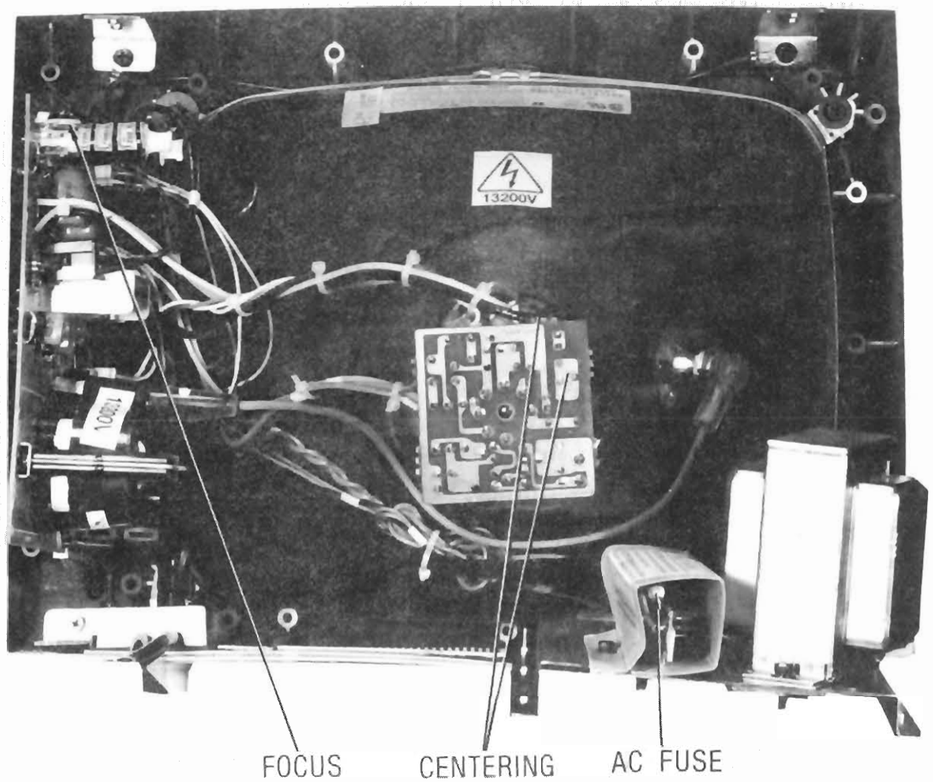

CABINET-REAR VIEW

DISASSEMBLY INSTRUCTIONS

CHASSIS REMOVAL

Remove two plugs in cabinet top and bottom and remove two screws holding top of cabinet back to cabinet front. Remove six screws holding cabinet back to cabinet bottom and chassis frame. Remove back. Disconnect HV anode, CRT socket, deflection yoke connector and ground leads. Remove knobs from cabinet front. Remove two screws holding circuit board to cabinet front and remove board from cabinet. Remove two screws (from cabinet bottom) holding power supply assembly and remove assembly from cabinet.

CRT REMOVAL

Follow "Chassis Removal" procedure and lay set facedown on a soft protective surface. Loosen and remove CRT neck assembly. *Remove* four screws holding CRT to cabinet front and left CRT out of cabinet. **Do Not** lift CRT by the neck.

SERVICING IN THE FIELD

FUSE DEVICES

A 750mA fuse is used for AC line protection. (See photo, Cabinet-Rear View.)

FOCUS

The focus may be varied by a focus control. (See photo, Cabinet-Rear View.)

CENTERING

Centering is accomplished by proper adjustment of two magnetic rings located on the yoke rear cover. (See photo, Cabinet-Rear View.)

CMT4-1 IBM MODEL 5151

MODEL 5151

CMT4-1 IBM MODEL 5151

MODEL 5151

PRELIMINARY SERVICE CHECKS

ENCLOSED

INDEX

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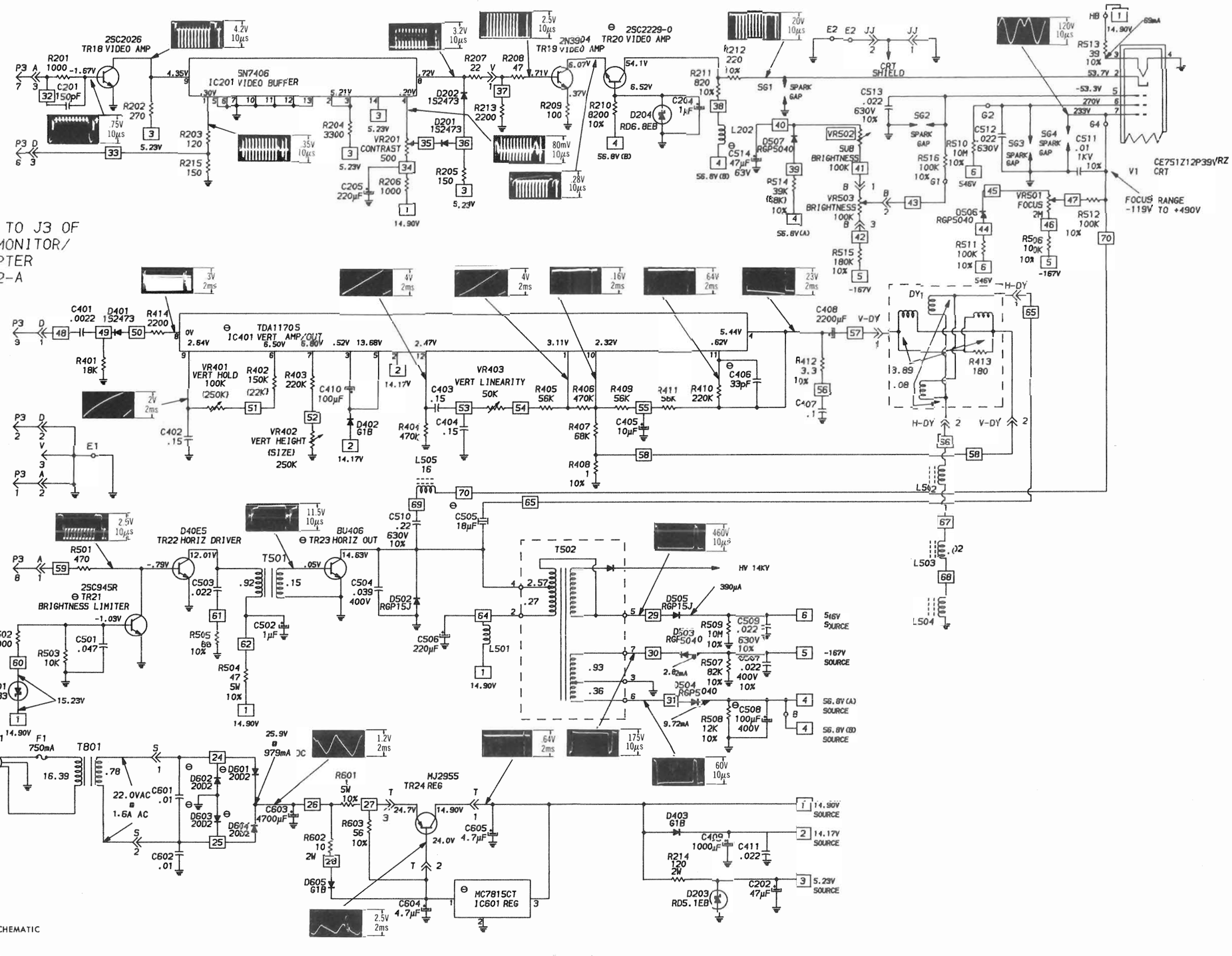
4300 West 62nd Street, P.O. Box 7092, Indianapolis, Indiana 46206 U.S.A.

Printed in U.S. of America. 84CF14929 DATE 9-84

P3 CONNECTS TO J3 OF
MONOCHROME MONITOR/
PRINTER ADAPTER
FOLDER CSCS2-A

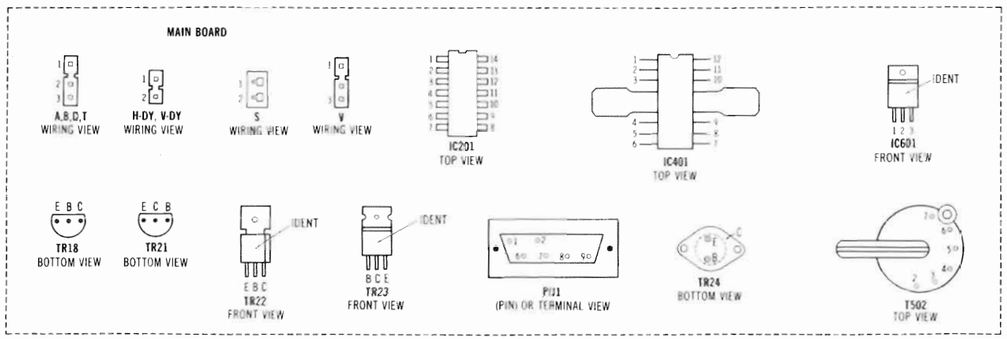


FOR TERMINAL GUIDES AND
NOTES SEE PAGE 14

RESISTANCE MEASUREMENTS

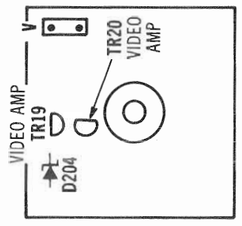
MEASUREMENTS TAKEN WITH LOW POWER OHMS METER														
ITEM	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8	PIN 9	PIN 10	PIN 11	PIN 12	PIN 13	PIN 14
IC201	284	3440	3440	1549	0	0	0	2200	488	0	0	0	0	215
IC401	INF	INF	INF	INF	INF	8790	221K	1.8M	189K	160K	INF	468K		
IC601	INF	78.4	0											
V1	328K	13K	FIL	FIL	334K	INF	1.1M							
ITEM	E	B	C		ITEM	E	B	C		ITEM	E	B	C	
TR18	0	11K	473		TR21	0	9940	INF		TR23	0	.20	78.9	
TR19	98	2210	INF		TR22	0	INF	125		TR24	INF	INF	78.4	
TR20	INF	21K	13K											

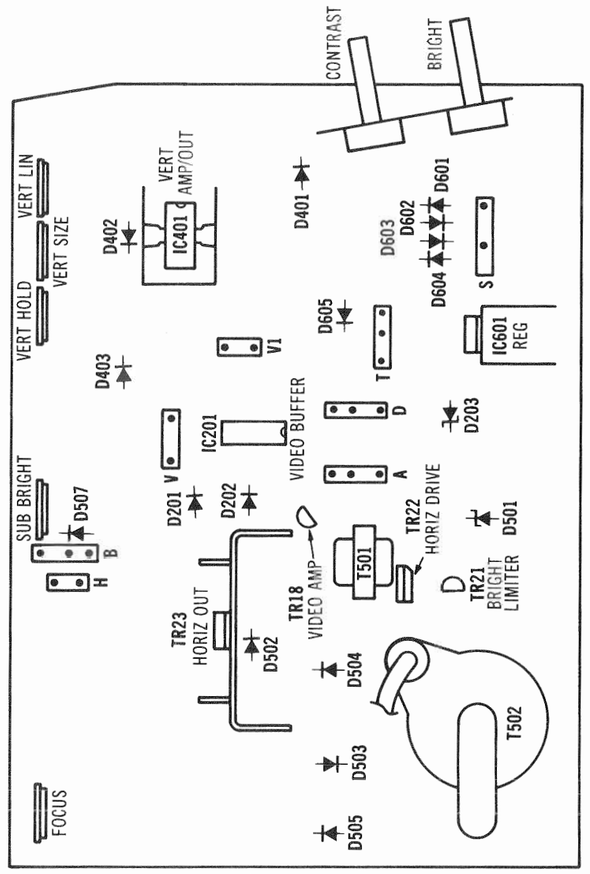
TERMINAL GUIDES

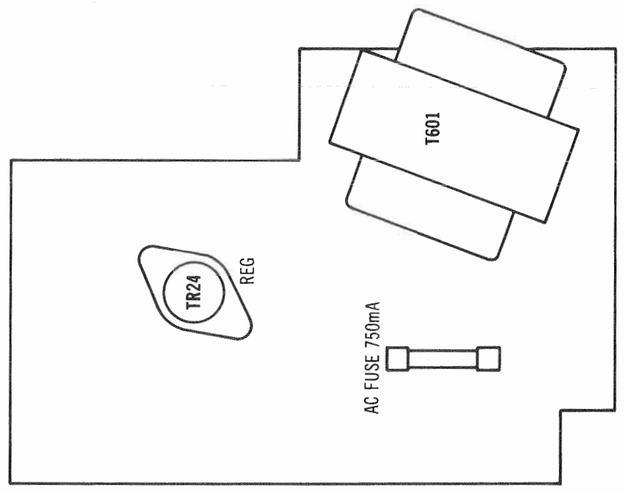


SCHEMATIC NOTES

—✕— Circuitry not used in some versions
- - - Circuitry used in some versions
⊖ See parts list
⏚ Ground
Waveforms and voltages are taken from ground, unless noted otherwise.
Waveforms: triggered scope, video pattern generator.
Item numbers in rectangles appear in the alignment/adjustment instructions.
Supply voltages maintained as shown at input.
Voltages measured with digital meter, with signal applied.
Controls adjusted for normal operation.
Terminal indentification may not be found on unit.
Capacitors are 50 volts or less, 5% unless noted.
Electrolytic capacitors are 50 volts or less, 20% unless noted.
Resistors are ½W or less, 5% unless noted.
Value in ( ) used in some versions.
Measurements with switching as shown, unless noted.







PLACEMENT CHART

TROUBLESHOOTING AID

Note: Waveforms taken with trigged scope, Bar-Sweep generator. Schematic voltages measured with digital meter, no signal. Controls adjusted for normal operation.

PICTURE

NO PIC, NO RASTER: Check for AC power supply and sources generated from Horizontal Output Transformer (T502). Refer to "Troubleshooting" Power Supply and Horizontal circuits.

NO PIC, HAS RASTER: Refer to "Troubleshooting" Video circuit.

LOW OR EXCESSIVE BRIGHTNESS: Check Video and Luminance circuits. Refer to "Troubleshooting" Video circuit.

SWEEP

NO RASTER: Check HV rectifier, Part of Horizontal Output Transformer (T502). Refer to "Troubleshooting" Horizontal circuit.

NO VERT DEFLECTION: Refer to "Troubleshooting" Vertical circuit.

POOR VERT LIN OR FOLDOVER: Refer to "Troubleshooting" Vertical circuit.

POOR HORIZ LIN OR FOLDOVER: Refer to "Troubleshooting" Horizontal circuit.

NARROW PICTURE: Refer to "Troubleshooting" Horizontal circuit.

VERT OFF FREQUENCY: Refer to "Troubleshooting" Vertical circuit.

HORIZ OFF FREQUENCY: Refer to "Troubleshooting" Horizontal circuit.

SYNC

NO VERT/HORIZ SYNC: Refer to "Troubleshooting" Sync circuit.

Note:

Make sure that the problem is in the monitor and not in the computer. If the Monochrome Adapter fails, the monitor will lose raster, or sync, or both, according or whichever signal is missing from the computer to monitor.

TROUBLESHOOTING

POWER SUPPLY

Check the AC Line Fuse (F1). If open check Diodes D601, D602, D603, D604 and D605, Regulator Transistor (TR24) and Regulator IC (IC601). Also check Power Transformer (T801) and associated components. Replace defective parts and check for short to ground from the collector of Transistor TR24.

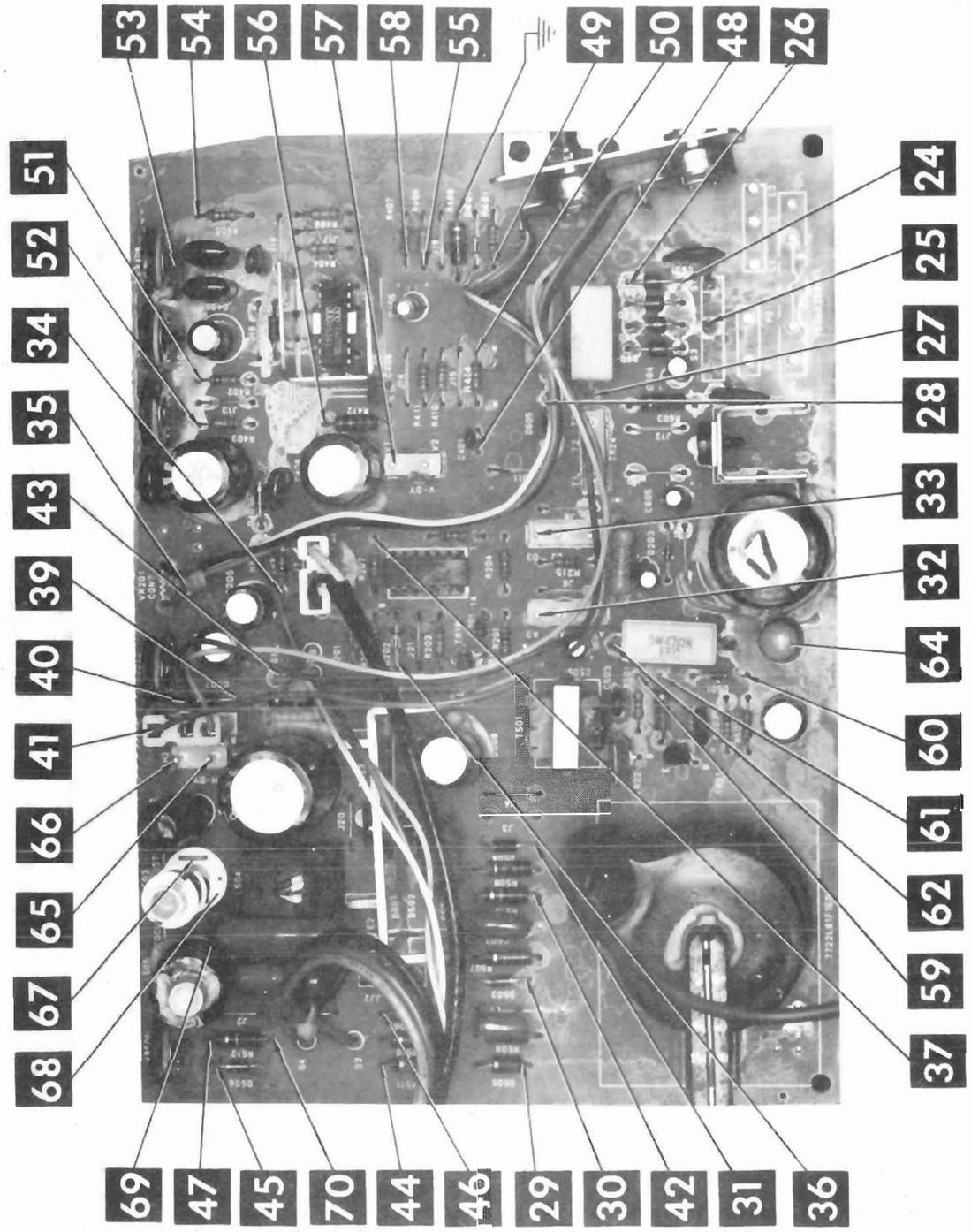
Apply 120 VAC between P1 and P2 - the primary winding of Transformer T801, and check for 24.7V at the emitter of Transistor TR24. If the voltage is missing, check Resistor R601. Also, check for 22 VAC between the cathode of Diode D602 and the cathode of Diode D603. Check for 14.90V at the collector of Transistor TR24. If the voltage is missing, check Transistor TR24, IC601, Capacitor C409 and associated components. Check for 14.63V at the collector of the Horizontal Output Transistor (TR23). If the voltage is missing, check Coil L501, Horizontal Drive Transistor (TR22). Diode D502 and the winding of the Horizontal Output Transformer (T502) between pin 2 and pin 4 and associated components.

Check the sources that are developed from Transformer T502. Check for 56.8V at the cathode of Diode D504, -167V at the anode of Diode D503 and 546V at the cathode of Diode D505. If these sources are missing refer to the "Horizontal" section of this Troubleshooting guide.

HORIZONTAL

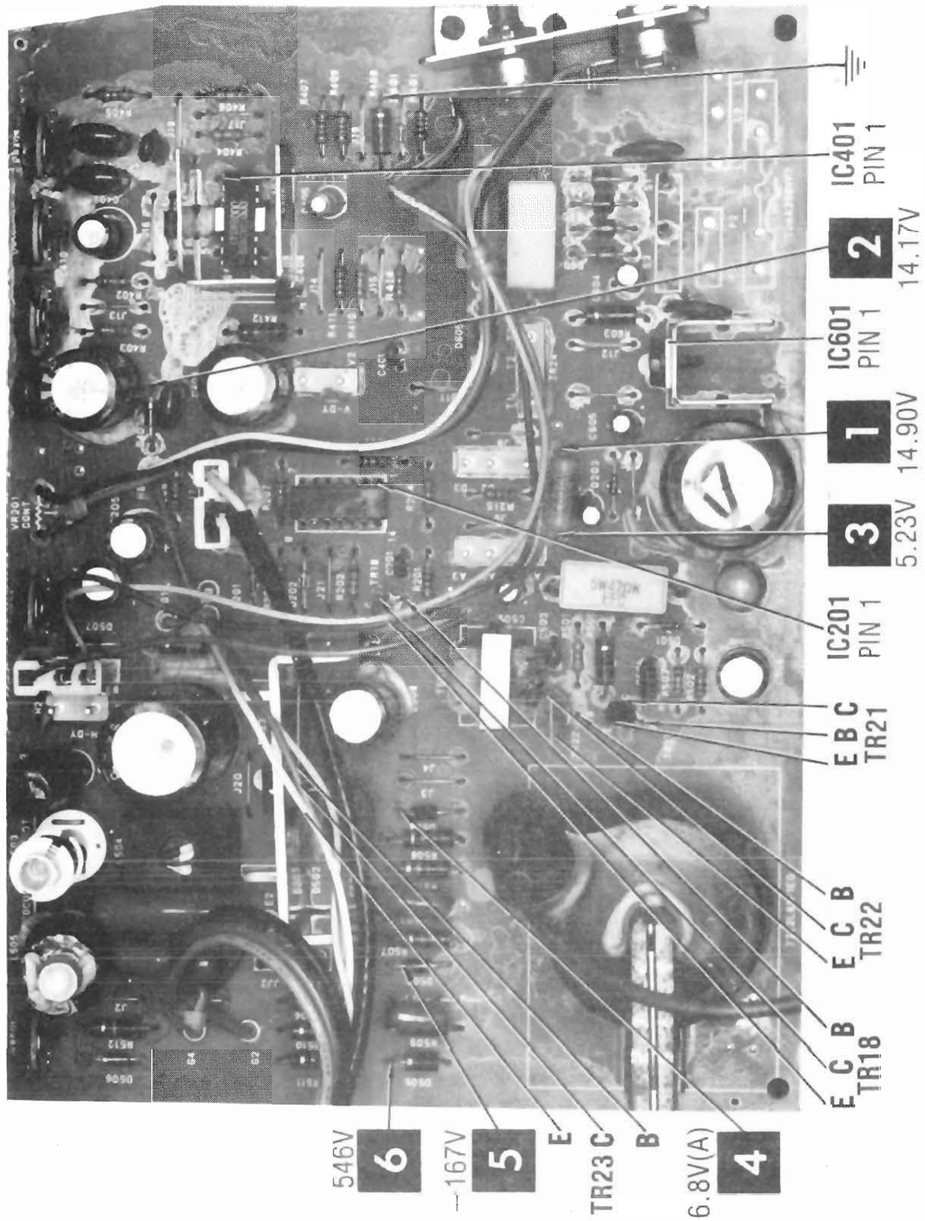
Check for 14.63V at the collector of the Horizontal Output Transistor (TR23). If the 14.63V is missing, check for the 14.90V source at the collector of the Regulator Transistor (TR24). Refer to the "Power Supply" section of this Troubleshooting guide and check Transistor TR23, Damper Diode (D502), Coil L501 and winding of the Horizontal Output Transformer (T502) between pins 2 and 4.

Inject a horizontal signal at the base of Transistor TR23. If the raster returns, check voltages and components associated with Horizontal Drive Transistor (TR22) and the Horizontal Drive Transformer (T501). If the raster does not return, check Transistor TR23, Diode D502, Transformer T502 and associated circuitry. The high voltage rectifier is part of Transformer T502 and may be defective.



A Howard W. Sams CIRCUITRACE® Photo

MAIN BOARD



MAIN BOARD

A Howard W. Sams CIRCUITRACE Photo

VIDEO

Inject a video signal at pin 3 of plug A, inject a positive horizontal sync pulse at pin 1 of plug A and inject a positive vertical sync pulse at pin 1 of plug D. Check for video on the CRT. If there is no video on the CRT, check for a video waveform at the base of the Video Amp Transistor (TR19). If the correct waveform appears at the base of Transistor TR19, check waveforms at the emitter of Video Amp Transistor (TR20) and at pin 2 of the CRT socket. If these waveforms are incorrect or missing, check Transistors TR19 and TR20 and associated components. Also, check the CRT and CRT voltages and waveforms. If the waveform at the base of Transistor TR19 is missing, check voltages, waveforms and components associated with pins 8, 9 and 4 of Video Buffer IC (IC201), Video Amp Transistor (TR18) and associated circuitry.

If the monitor has a low or excessive brightness, check voltages and components associated with the Brightness Limiter Transistor (TR21), Zener Diode (D501) and the Video Amp Transistor (TR20). Also, check the CRT and CRT voltages and waveforms.

SYNC

The vertical and horizontal sync pulses are developed from the computer. The PC computer develops positive sync pulses. If there is no sync, check for a bad connection at pins 8 and 9 of the connector cable between the computer and the monitor.

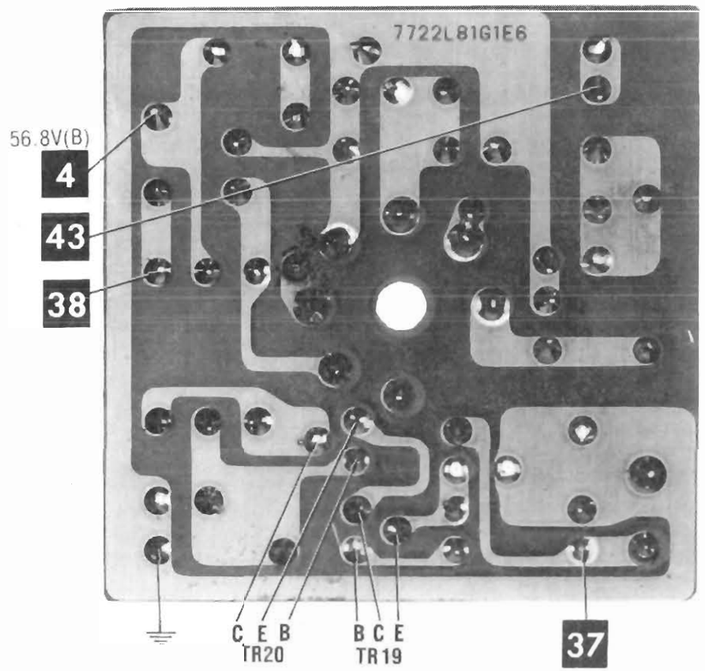
VERTICAL

No vertical deflection. Check voltages, waveforms and components associated with pins 2, 3, 4 and 5 of the Vertical Amp/Output IC (IC401), Capacitor C406 and associated circuitry. Check voltages, waveforms and components associated with pins 1, 8 thru 12 of IC401 and check the vertical winding of the Deflection Yoke (DY1).

ADJUSTMENT

SUB BRIGHTNESS ADJUSTMENT

Display video information on the Monitor screen. Adjust the Brightness and Contrast Controls to Maximum. Adjust Sub Brightness Control (VR502) for suitable brightness without blooming or retrace lines on the screen.



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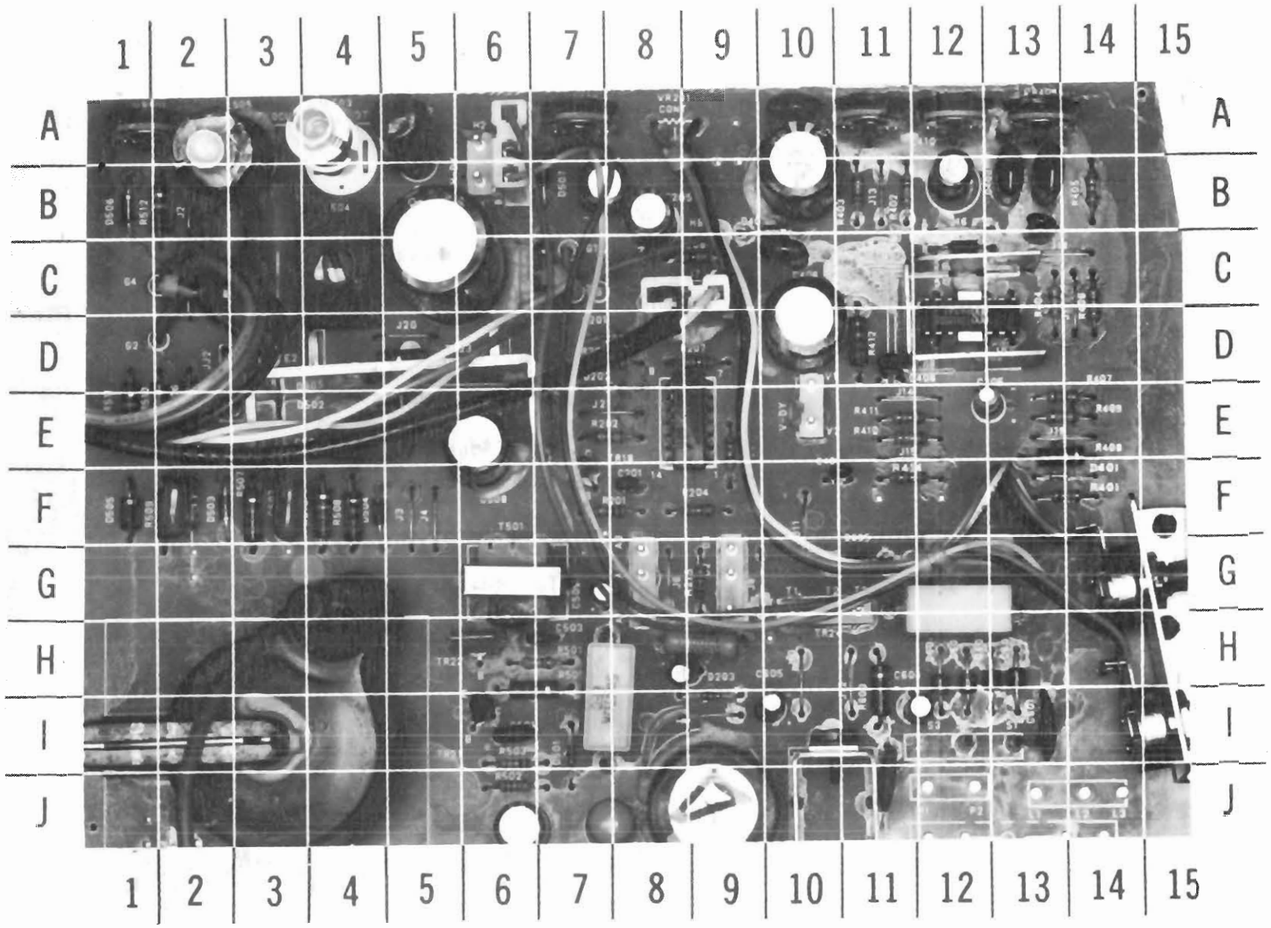
CRT SOCKET BOARD



MAIN BOARD A Howard W. Sams GRIDTRACE™ Photo

MAIN BOARD-GridTrace LOCATION GUIDE

A	G-8	R405	B-14
B	A-6	R406	C-14
C201	F-8	R407	E-14
C202	H-9	R408	E-13
C204	B-8	R409	E-14
C401	F-10	R410	E-11
C402	A-10	R411	E-11
C403	B-13	R412	D-11
C404	B-13	R414	F-11
C405	E-12	R501	H-7
C406	D-11	R502	J-6
C407	C-10	R503	I-6
C408	D-10	R504	I-7
C409	B-10	R505	H-7
C410	B-12	R506	E-2
C411	B-13	R507	F-3
C501	I-6	R508	F-4
C502	G-7	R509	F-2
C503	H-7	R510	E-1
C504	E-4	R511	E-1
C505	C-5	R512	B-2
C506	J-6	R514	C-7
C507	F-3	R515	F-4
C508	E-6	R601	G-12
C509	F-2	R602	G-12
C510	C-3	R603	I-11
C511	C-2	S	I-12
C514	B-7	T	G-10
C601	I-13	TR18	F-7
C602	J-11	TR21	I-6
C603	J-9	TR22	H-6
C604	I-12	TR23	D-5
C605	I-10	V	C-9
D	G-9	V-DY	E-10
D201	D-7	VR201	G-14
D202	D-7	VR401	A-11
D203	I-9	VR402	A-12
D401	F-13	VR403	A-13
D402	C-12	VR501	A-1
D403	B-10	VR502	A-7
D501	I-7	VR503	I-15
D502	E-4		
D503	F-3		
D504	F-4		
D505	F-1		
D506	B-1		
D507	B-7		
D601	H-13		
D602	H-12		
D603	H-12		
D604	H-12		
D605	G-11		
H-DY	B-6		
IC201	E-9		
IC401	D-12		
IC601	I-10		
L501	J-7		
L502	A-5		
L503	A-4		
L504	C-4		
L505	A-2		
R201	F-7		
R202	E-7		
R203	E-9		
R204	F-9		
R205	D-8		
R206	C-9		
R207	D-9		
R214	H-9		
R215	G-9		
R401	F-14		
R402	B-11		
R403	B-11		
R404	C-13		

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

MISCELLANEOUS

ITEM No.	PART NAME	MFGR. PART No.	NOTES
P1	Cord	8529174 (1)	AC Power
P/J1	Signal Cable Assembly	8529173 (1)	Includes Cable and Connectors
SG1	Spark Gap		
SG2	Spark Gap		
SG3	Spark Gap		
SG4	Spark Gap		
V1	CRT	CE751Z12P39VRZ	
	P.C. Board		Main Board
	P.C. Board		CRT Socket Board

(1) Restricted Availability.

CABINET & CABINET PARTS (When ordering specify model, chassis & color)

ITEM	PART No.
Back Cover	8529230 (1)
Cover Plug, Upper (2 used)	8529231 (1)
Front Panel	8529229 (1)

ITEM	PART No.
Knob, Brightness	8529177
Knob, Contrast	8529178

(1) Restricted Availability.

CRT SOCKET BOARD GridTrace LOCATION GUIDE

C204	I-10	R208	J-4	R213	H-4	SG-3	E-3
C512	C-3	R209	I-4	R513	D-8	SG-4	F-3
C513	C-6	R210	F-9	R516	B-4	TR19	J-7
D204	J-9	R211	F-10	SG-1	C-9	TR20	H-7
L202	C-10	R212	G-8	SG-2	B-6		

CRT SOCKET BOARD A Howard W. Sams GRIDTRACE™ Photo

PARTS LIST AND DESCRIPTION

When ordering parts, state Model, Part Number, and Description

SEMICONDUCTORS (Select replacement for best results)

ITEM No.	TYPE No.	MFGR. PART No.	REPLACEMENT DATA					
			GENERAL ELECTRIC PART No.	MOTOROLA PART No.	NEW TONE NTE PART No.	PHILIPS ECG PART No.	RCA PART No.	WORKMAN PART No.	ZENITH PART No.
D201,2	1S2473		GE-514	1N4935	NTE519	ECG519	SK3100/519	WEP925/519	103-131
D203	RD5.1EB		GEZD-5.1	1N5231B	NTE5010A	ECG5010A	SK5A1/5010A	WEP1411/5010	103-279-10
D204	RD6.8EB		GEZD-6.8	1N5235B	NTE5014A	ECG5014A	SK6A8/5014A	WEP1415/5014	103-Z9009
D401	1S2473		GE-514	1N4935	NTE519	ECG519	SK3100/519	WEP925/519	103-131
D402,3	G1B		GE-504A	1N4004	NTE116	ECG116	SK3031A	WEP157	212-76-02
D501	RD16EB3		GEZD-16	1N5246B	NTE5025A	ECG5025A	SK16A/5025A	WEP1427/5025	103-231
D502	RGP15J		GE-511		NTE552	ECG552	SK3318A	WEP172/506	103-287
D503,4	RGP5040		GE-511		NTE552	ECG552	SK9000/552	WEP172/506	103-287
D505	RGP15J		GE-511		NTE552	ECG552	SK3318A	WEP172/506	103-287
D506,7	RGP5040		GE-511		NTE552	ECG552	SK9000/552	WEP172/506	103-287
D601 thru D604	20D2		GE-510	1N4007	NTE125	ECG125	SK5010/117A	WEP170/125	212-Z9000
D605	G2D		GE-510	1N4007	NTE125	ECG125	SK5010/117A	WEP170/125	212-Z9000
IC201	G1B		GE-504A	1N4004	NTE116	ECG116	SK3031A	WEP157	212-76-02
IC401	SN7406		GE-7406		NTE7406	ECG7406	SK7406		HE-443-698
	TDA1170S				NTE1289	ECG1289	SK9182/1289		
	TDA1170				NTE1289	ECG1289	SK9182/1289		
IC601	MC7815CT			MC7815CT	NTE968	ECG968	SK3593/968		HE-442-63
	L7815CV			MC7815CT	NTE968	ECG968	SK3593/968		HE-442-63
TR18	2SC2026						SK9139+		
TR19	2N3904		GE-123AP	MPSA05	NTE123AP	ECG123AP	SK3854/123AP	WEP736/123A	121-Z9000A
TR20	2SC2229-O		GE-222*	MPSA42*	NTE399	ECG399	SK3244	WEP68/287*	121-Z9045*
	2SC1921		GE-222*	MPSA42*	NTE399	ECG399	SK9352/399	WEP68/287*	121-Z9045*
TR21	2SC945R		GE-212	MPSA18*	NTE85	ECG85	SK3124A/289A	WEP736/123A*	121-972*
	2SC945		GE-212	MPSA18*	NTE85	ECG85	SK3124A/289A	WEP736/123A*	121-972*
TR22	D40E5		D40E5	D40E5	NTE186	ECG186	SK3192/186	WEP751/186	121-Z9008
TR23	BU406			BU406	NTE379	ECG379	SK9085/379	WEP379/379	121-Z9111
	BU408			BU406	NTE379	ECG379	SK9085/379	WEP379/379	121-Z9111
TR24	MJ2955		GE-74	MJ2955	NTE219	ECG219	SK3173/219	WEP760/219	121-Z9058

* Lead configuration may vary from original.
\+ Rotate 180° to conform with original lead configuration.

WIRING DATA

High Voltage Lead	Use BELDEN No.	8869 (17 KV)
Shielded Hook-up Wire	Use BELDEN No.	8401 or 8421 (Single-Conductor)
		8208 (Two-Conductor)
General-use Unshielded Hook-up Wire	Use BELDEN No.	8529 (Solid) Available in 13 Colors
		8522 (Stranded) Available in 13 Colors

ELECTROLYTIC CAPACITORS

Item numbers not listed are normally available at local distributors.

ITEM No.	RATING	MFGR. PART No.
C505	18 25V NP 47 50V NP	

ITEM No.	RATING	MFGR. PART No.
C508	100 400V 22 160V	

CAPACITORS

Item numbers not listed are normally available at local distributors.

ITEM No.	RATING	MFGR. PART No.
C406	33 NPO 50V 5%	

ITEM No.	RATING	MFGR. PART No.

CONTROLS (All wattages ½ watt, or less, unless listed)

ITEM NO.	FUNCTION	RESISTANCE	MFGR. PART NO.	NOTES
VR201	Contrast	500		
VR401	Vert Hold	100K		
	Vert Hold	250K		
VR402	Vert Height (Size)	250K		
VR403	Vert Linearity	50K		
VR501	Focus	2M		
VR502	Sub Brightness	100K		
VR503	Brightness	100K		

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		
		MFGR. PART No.	NEW-TONE PART No.	WORKMAN PART No.
R504	47 10% 5W WW		5W047	
R601	1 10% 5W WW		5W1D0	24-3010

TRANSFORMER (Power)

ITEM No.	RATING			REPLACEMENT DATA		
	PRI.	SEC. 1	SEC. 2	MFGR. PART No.	THORDARSON PART No.	NOTES
T801	120V AC @ 340mA AC	22.0V AC @ 1600mA AC		8529235 (1) 74507600534 (2)		
	SEC. 3	SEC. 4	SEC. 5			

(1) Restricted Availability.
(2) Number on unit.

COILS & TRANSFORMERS (Sweep Circuits)

ITEM No.	FUNCTION	REPLACEMENT DATA		
		MFGR. PART No.	OTHER IDENTIFICATION	THORDARSON PART No.
DY1	Yoke 90° Horiz 66.6uH Vert 7.28mH		74820102235 (1)	
L503	Width		08014 (1)	
L505	Dynamic Focus		01002 (1)	
T501	Horiz Driver		74580200439 (1)	
T502	Horiz Output		74730102538 (1)	

(1) Number on unit.

COILS (RF-IF)

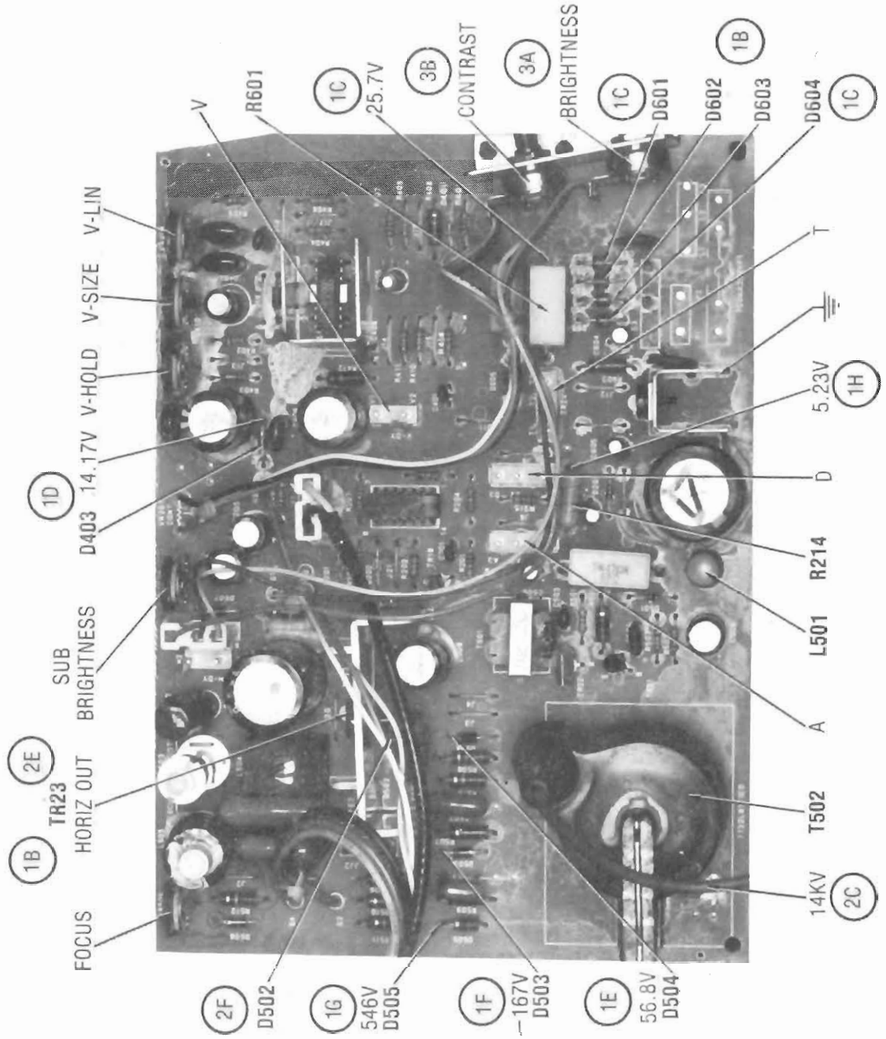
ITEM No.	FUNCTION	MFGR. PART No.
L202	RF Choke (4.7uH)	
L501	RF Choke	
L502	Peaking	

ITEM No.	FUNCTION	MFGR. PART No.
L503	Peaking	
L504	Horiz Linearity	
L505	Peaking (5.58mH)	

FUSE DEVICES

ITEM NO.	DESCRIPTION	MFGR. PART NO.		NOTES
		DEVICE	HOLDER	
F1	750ma @ 250V Fast Acting	8529175 (1)		

(1) Restricted Availability.



MAIN BOARD

PRELIMINARY SERVICE CHECKS

This data provides the user with a time-saving service tool which is designed for quick isolation and repair of computer malfunctions.

Check all interconnecting cables for good connection and correct hook-up before making service checks.

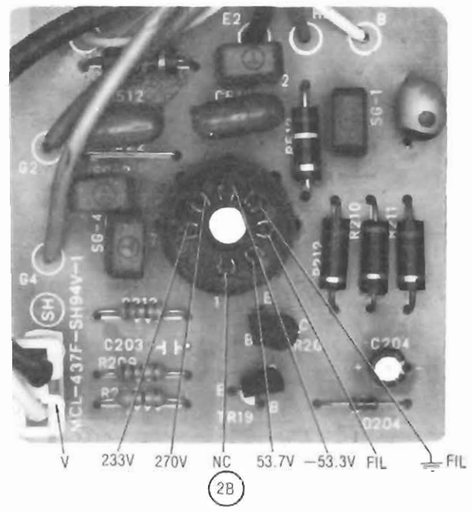
DISASSEMBLY INSTRUCTIONS

CHASSIS REMOVAL

Remove two plugs in cabinet top and remove two screws holding top of cabinet back to cabinet front. Remove six screws holding cabinet back to cabinet bottom and chassis frame. Remove back. Disconnect HV anode, CRT socket, deflection yoke connector and ground leads. Remove knobs from cabinet front. Remove two screws holding circuit board to cabinet front and remove board from cabinet.Remove two screws (from cabinet bottom) holding power supply assembly and remove assembly from cabinet.

CRT REMOVAL

Follow "Chassis Removal" procedure and lay set facedown on a soft protective surface. Loosen and remove CRT neck assembly. Remove four screws holding CRT to cabinet front and lift CRT out of cabinet. **Do Not** lift CRT by the neck.

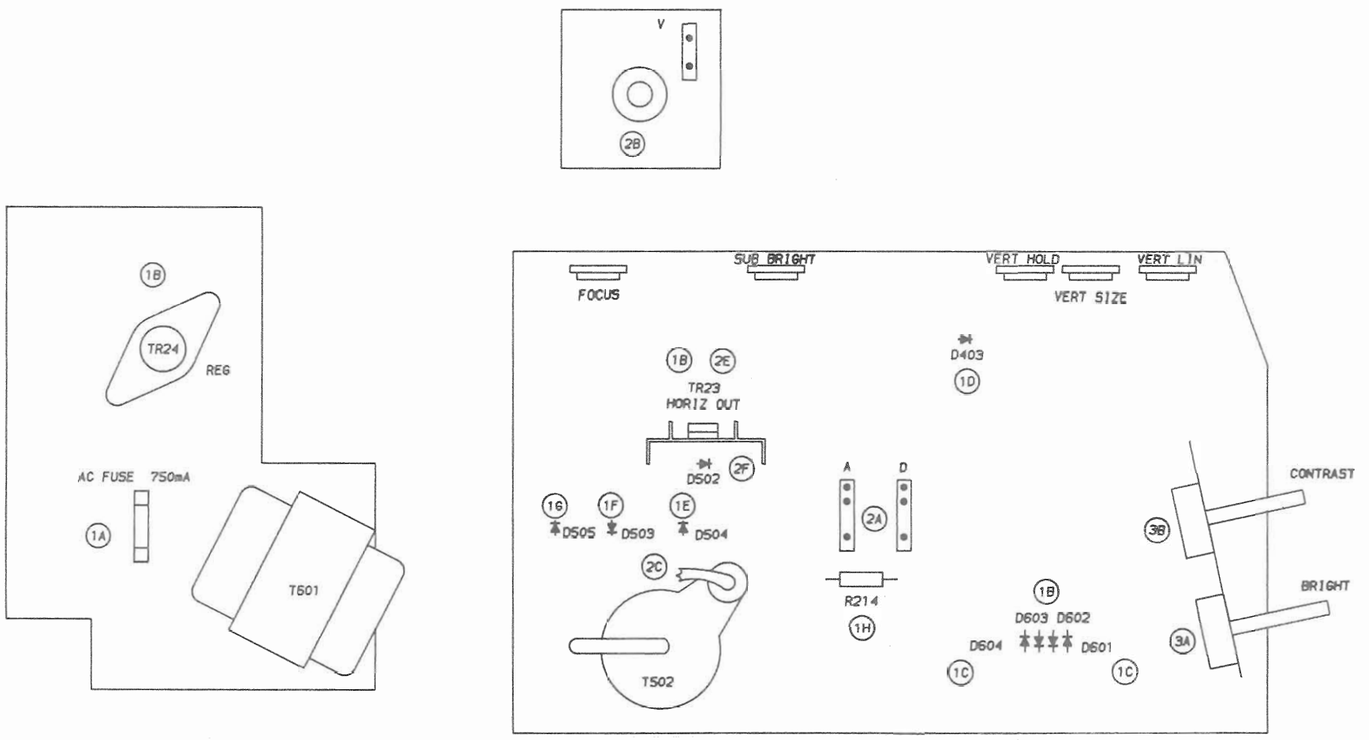


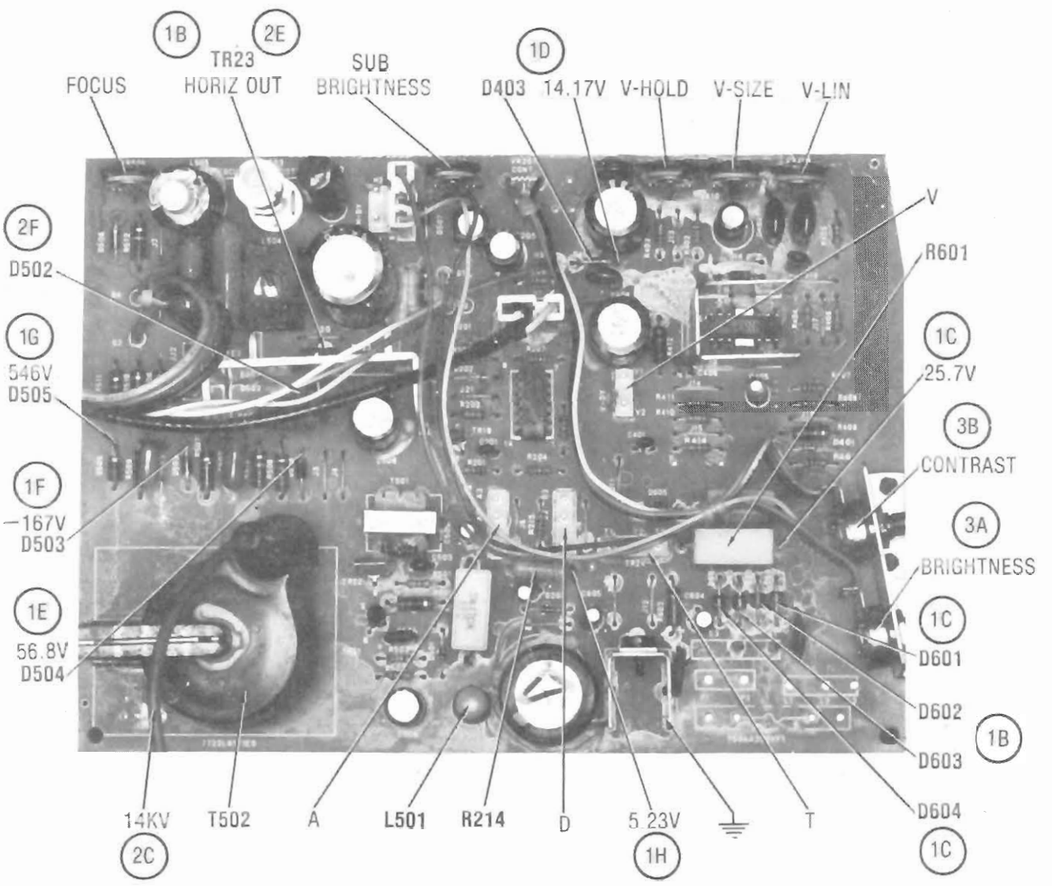
CRT SOCKET BOARD

SAMS™ Howard W. Sams & Co., Inc.
4300 West 62nd Street, P.O. Box 7092, Indianapolis, Indiana 46206 U.S.A.

Printed in U.S. of America. 84CF14929 DATE 9-84

CMT4-1 IBM MODEL 5151


V
2B
1B
TR24
REG
AC FUSE 750mA
1A
T501
SUB BRIGHT
FOCUS
VERT HOLD
VERT LIN
VERT SIZE
1B 2E
TR23
HORIZ OUT
D403
1D
D502
2F
A
D
CONTRAST
3B
1G 1F 1E
D505 D503 D504
2C
2A
R214
1H
1B
D603 D602
D604 D601
BRIGHT
3A
1C
1C
T502


1B
2E
TR23
HORIZ OUT
SUB
BRIGHTNESS
1D
D403 14.17V
V-HOLD
V-SIZE
V-LIN
FOCUS
V
R601
2F
D502
1G
546V
D505
1C
25.7V
3B
CONTRAST
1F
-167V
D503
3A
BRIGHTNESS
1E
56.8V
D504
1C
D601
D602
1B
D603
D604
1C
14KV
2C
T502
A
L501
R214
D
5.23V
1H
T

PRELIMINARY SERVICE CHECKS (Continued)

SERVICE CHECKS

SEE INTERCONNECTING DIAGRAM, PLACEMENT CHART, AND PHOTOS TO MATCH THE NUMBER IN THE CIRCLES WITH THOSE IN THE FOLLOWING DATA FOR SERVICE CHECKS TO BE PERFORMED.

(1) POWER SUPPLY

Check the following:

(A) AC Fuse F1.

(B) If fuse is open, check the Bridge Rectifier Diodes (D601 thru D604), Regulator Transistor (TR24), and Horizontal Output Transistor (TR23).

(C) 25.7V at the cathodes of Diodes D601 and D604.

(D) 14.17V at the cathode of Diode D403.

(E) 56.8V at the cathode of Diode D504.

(F) -- 167V at the anode of Diode D503.

(G) 546V at the cathode of Diode D505.

(H) 5.23V at Resistor R214.

(2) NO DISPLAY

(A) Check for a bad connection at the video input connector.

(B) Check the voltages on the CRT.

(C) Check the high voltage with a high voltage probe.

(D) Check CRT with CRT tester.

(E) Check the Horizontal Output Transistor (TR23).

(F) Check Damper Diode (D502).

(3) POOR BRIGHTNESS AND CONTRAST

(A) Clean the Brightness Control (VR503).

(B) Clean the Contrast Control (VR201).

ADJUSTMENT

SUB BRIGHTNESS ADJUSTMENT

Display video information on the Monitor screen. Adjust the Brightness and Contrast controls to Maximum. Adjust Sub Brightness Control (VR502) for suitable brightness without blooming or retrace lines on the screen.

TEST EQUIPMENT AND TOOLS

TEST EQUIPMENT

Digital Volt/Ohm Meter
High Voltage Probe
CRT Tester

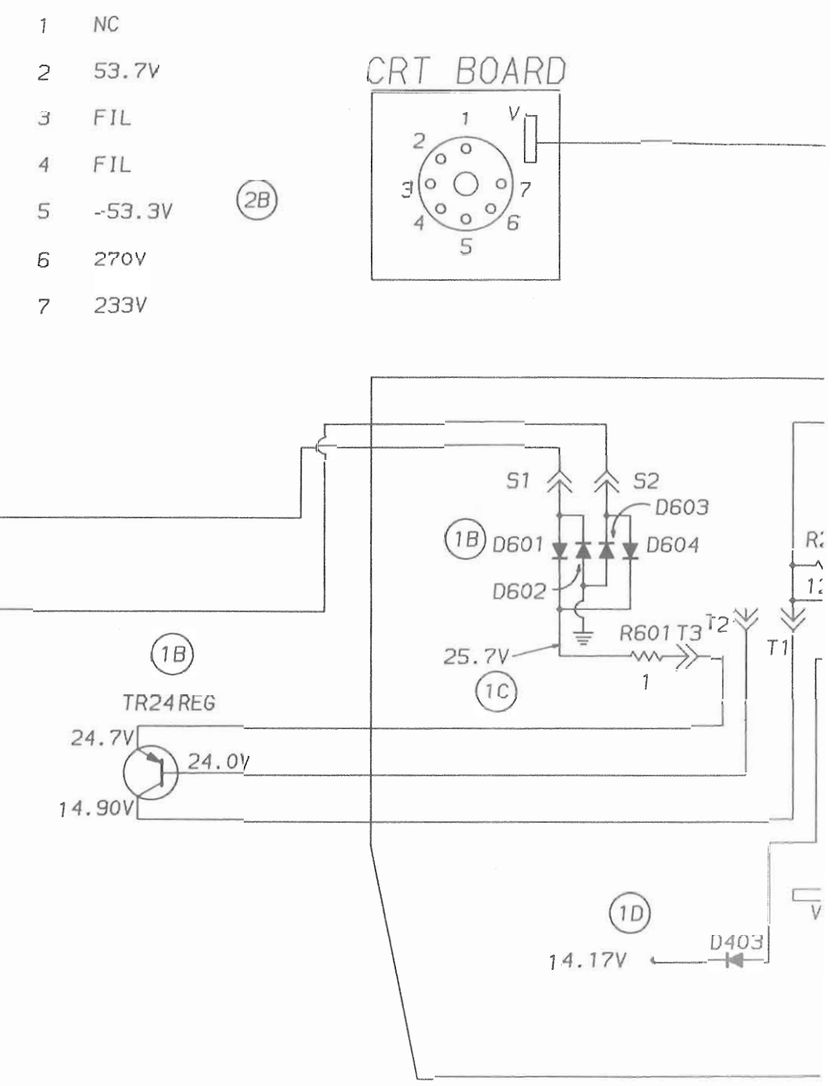
TOOLS

Phillips Screwdriver
1/4" Nut Driver
Soldering Iron
Desoldering Tool

PARTS LIST AND DESCRIPTION

ITEM	PART NO.	DESCRIPTION
D403		DIODE
D502		DIODE
D503		DIODE
D504		DIODE
D505		DIODE
D601 thru D604		BRIDGE RECTIFIERS
F1		750mA FUSE
R214		120ohm, 2W RESISTOR
TR23		HORIZONTAL OUTPUT TRANSISTOR
TR24		REGULATOR TRANSISTOR

PRELIMINARY SERVICE CHECKS (Continued)



HECKS (Continued)

ECKS

IT CHART, AND PHOTOS TO MATCH
THE FOLLOWING DATA FOR SERVICE

) **NO DISPLAY**

(A) Check for a bad connection at the video input connector.

(B) Check the voltages on the CRT.

(C) Check the high voltage with a high voltage probe.

(D) Check CRT with CRT tester.

(E) Check the Horizontal Output Transistor (TR23).

(F) Check Damper Diode (D502).

) **POOR BRIGHTNESS AND CONTRAST**

(A) Clean the Brightness Control (VR503).

(B) Clean the Contrast Control (VR201).

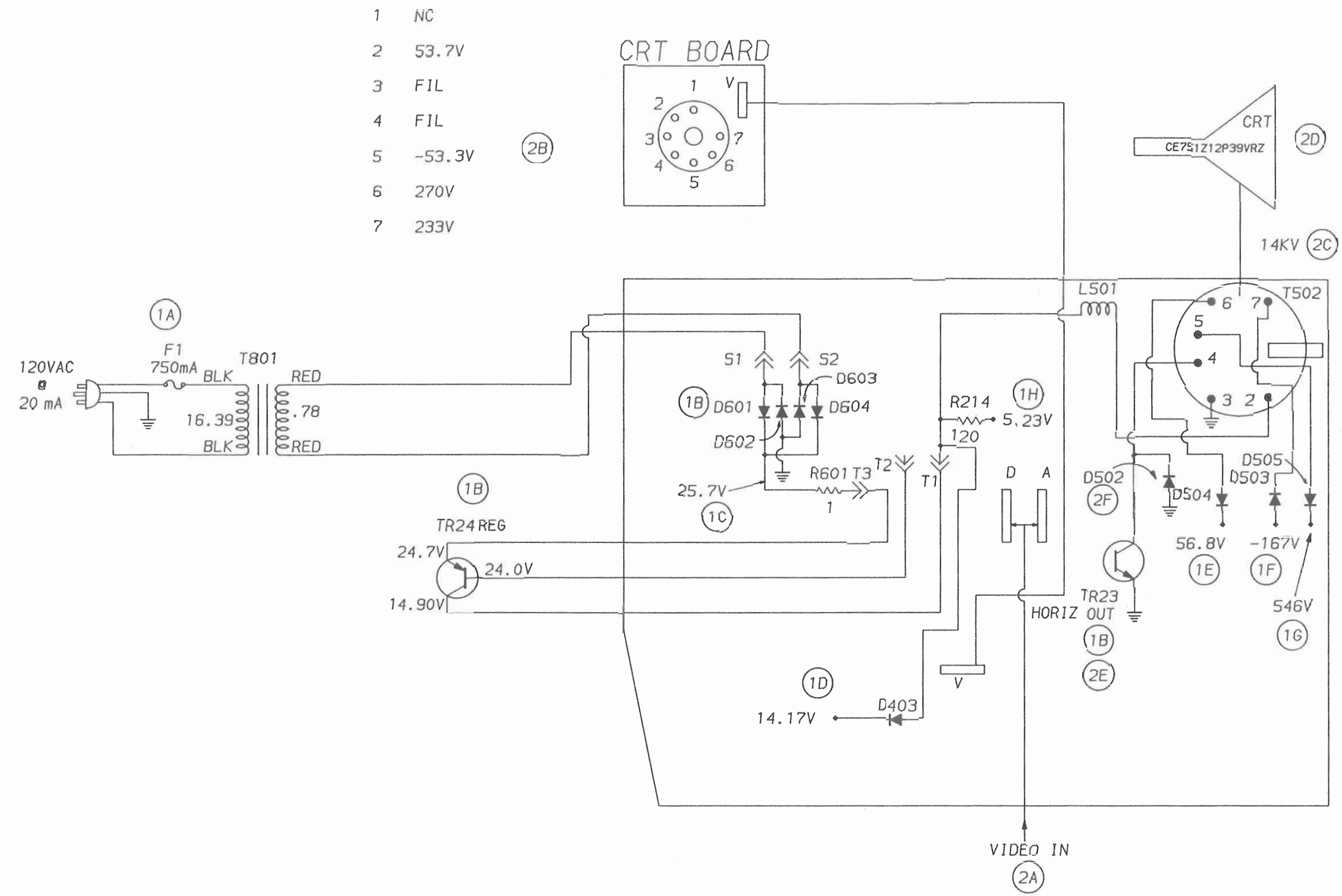
NT

lonitor screen. Adjust
s to Maximum. Adjust
or suitable brightness
n the screen.

ARTS LIST AND DESCRIPTION

ITEM	PART NO.	DESCRIPTION
)403		DIODE
)502		DIODE
)503		DIODE
)504		DIODE
)505		DIODE
)601		BRIDGE RECTIFIERS
hru		
)604		
:1		750mA FUSE
1214		120ohm, 2W RESISTOR
R23		HORIZONTAL OUTPUT TRANSISTOR
R24		REGULATOR TRANSISTOR

PRELIMINARY SERVICE CHECKS (Continued)



INTERCONNECTING DIAGRAM